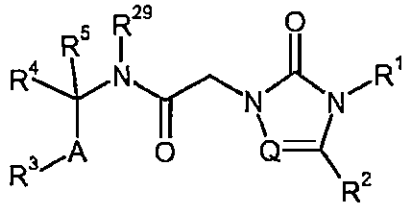
Claims

1. Compound of the formula (I)



(I),

in which

A is $-C(R^{6A}R^{6B})-*$ or $-C(R^{6A}R^{6B})-C(R^{7A}R^{7B})-*$,

where

* is the attachment site to R^3,

R^{6A} is hydrogen, (C_1-C_4) alkyl or trifluoromethyl,

R^{6B} is hydrogen or (C_1-C_4) alkyl,

R^{7A} is hydrogen, (C_1-C_4) alkyl or trifluoromethyl,

R^{7B} is hydrogen or (C_1-C_4) alkyl,

Q is CH or N,

R^1 is (C_1-C_6) alkyl, (C_2-C_6) alkenyl, (C_2-C_6) alkynyl or (C_3-C_7) cycloalkyl,

where (C_1-C_6) alkyl, (C_2-C_6) alkenyl and (C_2-C_6) alkynyl may be substituted by 1 to 3 substituents independently of one another selected from the group consisting of deuterium, halogen, cyano, oxo, hydroxyl, trifluoromethyl, (C_3-C_7) cycloalkyl, (C_1-C_6) alkoxy, trifluoromethoxy and phenyl,

in which (C_3-C_7) cycloalkyl may be substituted by 1 or 2 substituents independently of one another selected from the group consisting of (C_1-C_4) alkyl, oxo, hydroxyl, (C_1-C_4) alkoxy and amino,

and

in which (C_1-C_6) alkoxy may be substituted by 1 or 2 substituents independently of one another selected from the group consisting of amino, hydroxyl, (C_1-C_4) alkoxy, hydroxycarbonyl and (C_1-C_4) alkoxycarbonyl,

and

in which phenyl may be substituted by 1 to 3 substituents independently of one another selected from the group consisting of halogen, cyano, nitro, (C_1-C_4) alkyl, trifluoromethyl, hydroxyl, hydroxymethyl, (C_1-C_4) alkoxy, trifluoromethoxy, (C_1-C_4) alkoxymethyl, hydroxycarbonyl, (C_1-C_4) alkoxycarbonyl, aminocarbonyl, mono-(C_1-C_4) alkylaminocarbonyl and di-(C_1-C_4) alkylaminocarbonyl,

and

where (C_3-C_7) cycloalkyl may be substituted by 1 or 2 substituents independently of one another selected from the group consisting of fluorine, (C_1-C_4) alkyl, (C_1-C_4) alkoxy, hydroxy, amino and oxo,

R^2 is benzothienyl, phenyl, thienyl or furyl,

where benzothienyl, phenyl, thienyl and furyl may be substituted by 1 to 3 substituents independently of one another selected from the group consisting of halogen, cyano, nitro, (C_1-C_4) alkyl, trifluoromethyl, hydroxyl, (C_1-C_4) alkoxy and trifluoromethoxy,

R^3 is trifluoromethyl, hydroxyl, trifluoromethoxy, (C_1-C_4) alkoxy, (C_3-C_7) cycloalkoxy, nitro, amino, $-NR^8-C(=O)-R^9$, $-NR^{10}-SO_2-R^{11}$, $-SO_2-NR^{12}R^{13}$, $-O-C(=O)-NR^{14}R^{15}$, $-NR^{16}-C(=O)-NR^{17}R^{18}$, $-NR^{19}-C(=O)-OR^{20}$, $-S(=O)_nR^{21}$, $-O-SO_2-NR^{24}R^{25}$, $-NR^{26}-SO_2-NR^{27}R^{28}$ or $-NR^{30}R^{31}$,

where

R^8 is hydrogen or (C_1-C_4) alkyl,

R^9 is hydrogen, (C_1-C_4) alkyl or (C_3-C_7) cycloalkyl,

or

R^8 and R^9 together with the atoms to which they are attached form a 5- to 7-membered heterocycle,

where the 5- to 7-membered heterocycle may be substituted by 1 or 2 substituents independently of one another selected from the group consisting of fluorine, (C_1-C_4) alkyl and trifluoromethyl,

R^{10} is hydrogen or (C_1-C_4) alkyl,

R^{11} is (C_1-C_4) alkyl or (C_3-C_7) cycloalkyl,

or

R^{10} and R^{11} together with the atoms to which they are attached form a 5- to 7-membered heterocycle,

where the 5- to 7-membered heterocycle may be substituted by 1 or 2 substituents independently of one another selected from the group consisting of fluorine, (C_1-C_4) alkyl and trifluoromethyl,

R^{12} is hydrogen, (C_1-C_4) alkyl or (C_3-C_7) cycloalkyl,

R^{13} is hydrogen, (C_1-C_4) alkyl or (C_3-C_7) cycloalkyl,

or

R^{12} and R^{13} together with the nitrogen atom to which they are attached form a 4- to 7-membered heterocycle,

where the 4- to 7-membered heterocycle may be substituted by 1 or 2 substituents independently of one another selected from the group consisting of fluorine, oxo, hydroxyl, (C_1-C_4) alkyl and trifluoromethyl,

R^{14} is hydrogen, (C_1-C_4) alkyl or (C_3-C_7) cycloalkyl,

R^{15} is hydrogen, (C_1-C_4) alkyl or (C_3-C_7) cycloalkyl,

or

R^{14} and R^{15} together with the nitrogen atom to which they are attached form a 4- to 7-membered heterocycle,

where the 4- to 7-membered heterocycle may be substituted by 1 or 2 substituents independently of one another selected from the

group consisting of fluorine, oxo, hydroxyl, (C_1-C_4) alkyl and trifluoromethyl,

R^{16} is hydrogen or (C_1-C_4) alkyl,

R^{17} is hydrogen, (C_1-C_4) alkyl or (C_3-C_7) cycloalkyl,

R^{18} is hydrogen, (C_1-C_4) alkyl or (C_3-C_7) cycloalkyl,

or

R^{16} and R^{17} together with the nitrogen atoms to which they are attached form a 5- to 7-membered heterocycle,

where the 5- to 7-membered heterocycle may be substituted by 1 or 2 substituents independently of one another selected from the group consisting of fluorine, trifluoromethyl and (C_1-C_4) alkyl,

or

R^{17} and R^{18} together with the nitrogen atom to which they are attached form a 4- to 7-membered heterocycle,

where the 4- to 7-membered heterocycle may be substituted by 1 or 2 substituents independently of one another selected from the group consisting of fluorine, oxo, hydroxyl, (C_1-C_4) alkyl and trifluoromethyl,

R^{19} is hydrogen or (C_1-C_4) alkyl,

R^{20} is (C_1-C_4) alkyl or (C_3-C_7) cycloalkyl,

or

R^{19} and R^{20} together with the atoms to which they are attached form a 5- to 7-membered heterocycle,

where the 5- to 7-membered heterocycle may be substituted by 1 or 2 substituents independently of one another selected from the group consisting of fluorine, (C_1-C_4) alkyl and trifluoromethyl,

n is a number 0, 1 or 2,

R^{23} is hydrogen, (C_1-C_4) alkyl or (C_3-C_7) cycloalkyl,

R^{24} is hydrogen, (C_1-C_4) alkyl or (C_3-C_7) cycloalkyl,

R^{25} is hydrogen, (C_1-C_4) alkyl or (C_3-C_7) cycloalkyl,

or

R^{24} and R^{25} together with the nitrogen atom to which they are attached form a 4- to 7-membered heterocycle,

where the 4- to 7-membered heterocycle may be substituted by 1 or 2 substituents independently of one another selected from the group consisting of fluorine, oxo, hydroxyl, (C_1-C_4) alkyl and trifluoromethyl,

R^{26} is hydrogen or (C_1-C_4) alkyl,

R^{27} is hydrogen, (C_1-C_4) alkyl or (C_3-C_7) cycloalkyl,

R^{28} is hydrogen, (C_1-C_4) alkyl or (C_3-C_7) cycloalkyl,

or

R^{26} and R^{27} together with the nitrogen atoms to which they are attached form a 5- to 7-membered heterocycle,

where the 5- to 7-membered heterocycle may be substituted by 1 or 2 substituents independently of one another selected from the group consisting of fluorine, trifluoromethyl and (C_1-C_4) alkyl,

or

R^{27} and R^{28} together with the nitrogen atom to which they are attached form a 4- to 7-membered heterocycle,

where the 4- to 7-membered heterocycle may be substituted by 1 or 2 substituents independently of one another selected from the group consisting of fluorine, oxo, hydroxyl and (C_1-C_4) alkyl,

R^{30} is hydrogen, (C_1-C_4) alkyl or (C_3-C_7) cycloalkyl,

R^{31} is (C_1-C_4) alkyl or (C_3-C_7) cycloalkyl,

or

R^{30} and R^{31} together with the nitrogen atom to which they are attached form a 4- to 7-membered heterocycle,

where the 4- to 7-membered heterocycle may be substituted by 1 or 2 substituents independently of one another selected from the group consisting of fluorine, oxo, hydroxyl, (C_1-C_4) alkyl and trifluoromethyl,

R^4 is phenyl, naphthyl or 5- to 10-membered heteroaryl,

where phenyl, naphthyl and 5- to 10-membered heteroaryl may be substituted by 1 to 3 substituents independently of one another selected from the group consisting of halogen, cyano, nitro, (C_1-C_4) alkyl, difluoromethyl, trifluoromethyl, hydroxyl, (C_1-C_4) alkoxy, difluoromethoxy and trifluoromethoxy,

R^5 is hydrogen, deuterium, trifluoromethyl or (C_1-C_4) alkyl,

R^{29} is hydrogen or (C_1-C_4) alkyl,

and also their salts, solvates, and solvates of the salts.

2. Compound of the formula (I) according to Claim 1, in which

A is $-C(R^{6A}R^{6B})-*$ or $-C(R^{6A}R^{6B})-C(R^{7A}R^{7B})-*$,

where

* is the attachment site to R^3,

R^{6A} is hydrogen, methyl or trifluoromethyl,

R^{6B} is hydrogen or methyl,

R^{7A} is hydrogen, methyl or trifluoromethyl,

R^{7B} is hydrogen or methyl,

Q is CH or N,

R^1 is (C_1-C_6) alkyl, (C_2-C_6) alkenyl or (C_3-C_6) cycloalkyl,

where (C_1-C_6) alkyl and (C_2-C_6) alkenyl may be substituted by 1 to 3 substituents independently of one another selected from the group consisting of fluorine, chlorine, cyano, oxo, hydroxyl, trifluoromethyl, (C_3-C_6) cycloalkyl, (C_1-C_4) alkoxy, trifluoromethoxy and phenyl,

in which (C_3-C_6) cycloalkyl may be substituted by 1 or 2 substituents independently of one another selected from the group consisting of methyl, ethyl, oxo, hydroxyl, methoxy, ethoxy and amino,

and

in which phenyl may be substituted by a substituent selected from the group consisting of fluorine, chlorine, cyano, methyl, ethyl, trifluoromethyl, methoxy, ethoxy, trifluoromethoxy, methoxymethyl, ethoxymethyl, hydroxycarbonyl, methoxycarbonyl, ethoxycarbonyl and aminocarbonyl,

and

where (C_3-C_6) cycloalkyl may be substituted by 1 or 2 substituents independently of one another selected from the group consisting of fluorine, methyl, ethyl, methoxy, ethoxy, hydroxyl, amino and oxo,

R^2 is benzothien-2-yl, phenyl or thienyl,

where benzothien-2-yl, phenyl and thienyl may be substituted by 1 or 2 substituents independently of one another selected from the group consisting of fluorine, chlorine, bromine, methyl, ethyl, trifluoromethyl, hydroxyl, methoxy, ethoxy and trifluoromethoxy,

R^3 is trifluoromethyl, hydroxyl, amino, $-NR^8-C(=O)-R^9$, $-NR^{10}-SO_2-R^{11}$, $-SO_2-NR^{12}R^{13}$, $-O-C(=O)-NR^{14}R^{15}$, $-NR^{16}-C(=O)-NR^{17}R^{18}$, $-NR^{19}-C(=O)-OR^{20}$, $-S(=O)_nR^{21}$, $-O-SO_2-NR^{24}R^{25}$ or $-NR^{26}-SO_2-NR^{27}R^{28}$-,

where

R^8 is hydrogen or methyl,

R^9 is (C_1-C_4) alkyl,

or

R^8 and R^9 together with the atoms to which they are attached form a 5- to 7-membered heterocycle,

R^{10} is hydrogen or methyl,

R^{11} is (C_1-C_4) alkyl,

or

R^{10} and R^{11} together with the atoms to which they are attached form a 5- to 7-membered heterocycle,

R^{12} is (C_1-C_4) alkyl,

R^{13} is (C_1-C_4) alkyl,

R^{14} is hydrogen or (C_1-C_4) alkyl,

R^{15} is hydrogen, (C_1-C_4) alkyl or (C_3-C_7) cycloalkyl,

or

R^{14} and R^{15} together with the nitrogen atom to which they are attached form a 4- to 7-membered heterocycle,

R^{16} is hydrogen or (C_1-C_4) alkyl,

R^{17} is hydrogen or (C_1-C_4) alkyl,

R^{18} is hydrogen, (C_1-C_4) alkyl or (C_3-C_7) cycloalkyl,

or

R^{16} and R^{17} together with the nitrogen atoms to which they are attached form a 5- to 7-membered heterocycle,

R^{19} is hydrogen or methyl,

R^{20} is (C_1-C_4) alkyl,

or

R^{19} and R^{20} together with the atoms to which they are attached form a 5- to 7-membered heterocycle,

n is a number 0, 1 or 2,

R^{21} is (C_1-C_4) alkyl,

R^{24} is hydrogen or methyl,

R^{25} is hydrogen or methyl,

R^{26} is hydrogen or methyl,

R^{27} is hydrogen or (C_1-C_4) alkyl,

R^{28} is hydrogen or (C_1-C_4) alkyl,

or

R^{26} and R^{27} together with the nitrogen atoms to which they are attached form a 5- to 7-membered heterocycle,

R^4 is phenyl,

where phenyl may be substituted by 1 to 3 substituents independently of one another selected from the group consisting of fluorine, chlorine, cyano, methyl, ethyl, difluoromethyl, trifluoromethyl, hydroxyl, methoxy, ethoxy, difluoromethoxy and trifluoromethoxy,

R^5 is hydrogen, deuterium, trifluoromethyl, methyl or ethyl,

R^{29} is hydrogen or methyl,

and also their salts, solvates, and solvates of the salts.

3. Compound of the formula (I) according to Claim 1 or 2, in which

A is $-C(R^{6A}R^{6B})-*$ or $-C(R^{6A}R^{6B})-C(R^{7A}R^{7B})-*$,

where

* is the attachment site to R^3,

R^{6A} is hydrogen or trifluoromethyl,

R^{6B} is hydrogen,

R^{7A} is hydrogen,

R^{7B} is hydrogen,

Q is N,

R^1 is (C_2-C_4) alkyl, (C_2-C_4) alkenyl or cyclopropyl,

where (C_2-C_4) alkyl and (C_2-C_4) alkenyl may be substituted by 1 or 2 substituents independently of one another selected from the group consisting of fluorine, oxo, hydroxyl and trifluoromethyl,

R^2 is phenyl,

where phenyl may be substituted by a substituent selected from the group consisting of fluorine or chlorine,

R^3 is trifluoromethyl, hydroxyl, amino, $-NR^8-C(=O)-R^9$, $-NR^{10}-SO_2-R^{11}$, $-SO_2-NR^{12}R^{13}$, $-O-C(=O)-NR^{14}R^{15}$, $-NR^{16}-C(=O)-NR^{17}R^{18}$, $-NR^{19}-C(=O)-OR^{20}$, $-S(=O)_nR^{21}$ or $-NR^{26}-SO_2-NR^{27}R^{28}$-,

where

R^8 is hydrogen,

R^9 is methyl,

R^{10} is hydrogen,

R^{11} is methyl or ethyl,

R^{12} is methyl,

R^{13} is methyl,

R^{14} is hydrogen or methyl,

R^{15} is hydrogen, methyl or ethyl,

R^{16} is hydrogen,

R^{17} is hydrogen or methyl,

R^{18} is hydrogen, methyl or ethyl,

or

R^{16} and R^{17} together with the nitrogen atoms to which they are attached form a 2-oxoimidazolidin-1-yl or a 2-oxotetrahydropyrimidin-1(2H)-yl ring,

R^{19} is hydrogen,

R^{20} is methyl or ethyl,

or

R^{19} and R^{20} together with the atoms to which they are attached form a 2-oxo-1,3-oxazolidin-3-yl or 2-oxo-1,3-oxazinan-3-yl ring,

n is a number 0 or 2,

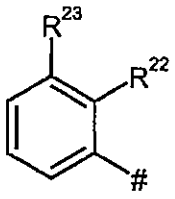
R^{21} is methyl,

R^{26} is hydrogen,

R^{27} is hydrogen,

R^{28} is hydrogen,

R^4 is a group of the formula



where

is the attachment site to $-C(R^5)(AR^3)N-$,

R^{22} is hydrogen, fluorine, chlorine, trifluoromethyl and methoxy,

R^{23} is hydrogen, fluorine, chlorine, trifluoromethyl and methoxy,

where at least one of the radicals R^{22} and R^{23} is other than hydrogen,

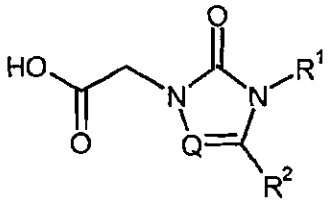
R^5 is hydrogen or methyl,

R^{29} is hydrogen,

and also their salts, solvates, and solvates of the salts.

4. Process for preparing compounds of the formula (I) as defined in Claims 1 to 3, characterized in that

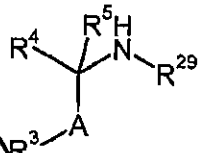
[A] a compound of the formula (II)



(II),

in which Q, R^1 and R^2 are each as defined in Claims 1 to 3

is coupled in an inert solvent, with activation of the carboxylic acid function, to a compound of the formula (III)

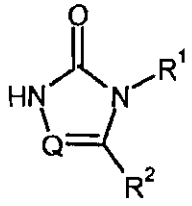


(III),

in which A, R^3, R^4, R^5 and R^{29} are each as defined in Claims 1 to 3,

or

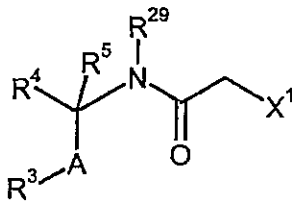
[B] a compound of the formula (IV)



(IV),

in which Q, R^1 and R^2 are each as defined in Claims 1 to 3

is reacted in an inert solvent, in the presence of a base, with a compound of the formula (V)



(V),

in which A, R^3, R^4, R^5 and R^{29} are each as defined in Claims 1 to 3

and

X^1 is a leaving group, such as halogen, mesylate or tosylate, for example,

and the resulting compounds of the formula (I) are converted optionally with the corresponding (i) solvents and/or (ii) bases or acids into their solvates, salts and/or solvates of the salts.

5. Compound of the formula (I) as defined in any of Claims 1 to 3 for the treatment and/or prophylaxis of diseases.

6. Compound of the formula (I) as defined in any of Claims 1 to 3 for use in a method for the treatment and/or prophylaxis of acute and chronic cardiac insufficiency, hypervolaemic and euvolaemic hyponatraemia, liver cirrhosis, ascites, oedemas and the syndrome of inadequate ADH secretion (SIADH).

7. Use of a compound of the formula (I) as defined in any of Claims 1 to 3 for the production of a medicament for the treatment and/or prophylaxis of acute and chronic cardiac insufficiency, hypervolaemic and euvolaemic hyponatraemia, liver cirrhosis, ascites, oedemas and the syndrome of inadequate ADH secretion (SIADH).

8. Medicament comprising a compound of the formula (I) as defined in any of Claims 1 to 3 in combination with an inert, non-toxic, pharmaceutically suitable excipient.

9. Medicament comprising a compound of the formula (I) as defined in any of Claims 1 to 3 in combination with one or more further active ingredients selected from the group consisting of diuretics, angiotensin AII antagonists, ACE inhibitors, beta receptor blockers, mineralocorticoid receptor antagonists, organic nitrates, NO donors and substances with positive inotropic activity.

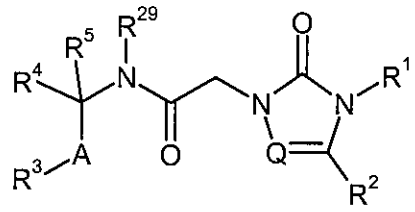
10. Medicament according to Claim 8 or 9 for the treatment and/or prophylaxis of acute and chronic cardiac insufficiency, hypervolaemic and euvolaemic hyponatraemia, liver cirrhosis, ascites, oedemas and the syndrome of inadequate ADH secretion (SIADH).

11. Method for the treatment and/or prophylaxis of acute and chronic cardiac insufficiency, hypervolaemic and euvolaemic hyponatraemia, liver cirrhosis, ascites, oedemas and the syndrome of inadequate ADH secretion (SIADH) in humans and animals, using an effective amount of at least one compound of the formula (I) as defined in any of Claims 1 to 3 or of a medicament as defined in any of Claims 8 to 10.

...

Claims

1. A compound of formula (I)



(I),

in which

A is $-CH_2$

Q is N,

R^1 is (C_2-C_4) alkyl, (C_2-C_4) alkenyl or cyclopropyl,

where (C_2-C_4) alkyl and (C_2-C_4) alkenyl may be substituted by 1 or 2 substituents independently of one another selected from the group consisting of fluorine, oxo, hydroxyl and trifluoromethyl,

R^2 is phenyl,

where phenyl may be substituted by a substituent selected from the group consisting of fluorine or chlorine,

R^3 is $-NR^8-C(=O)-R^9$, $-NR^{10}-SO_2-R^{11}$, $-SO_2-NR^{12}R^{13}$, $-O-C(=O)-NR^{14}R^{15}$, $-NR^{16}-C(=O)-NR^{17}R^{18}$, $-NR^{19}-C(=O)-OR^{20}$, $-S(=O)_nR^{21}$ or $-NR^{26}-SO_2-NR^{27}R^{28}$-,

where

R^8 is hydrogen,

R^9 is methyl,

R^{10} is hydrogen,

R^{11} is methyl or ethyl,

R^{12} is methyl,

R^{13} is methyl,

R^{14} is hydrogen or methyl,

R^{15} is hydrogen, methyl or ethyl,

R^{16} is hydrogen,

R^{17} is hydrogen or methyl,

R^{18} is hydrogen, methyl or ethyl,

or

R^{16} and R^{17} together with the nitrogen atoms to which they are attached form a 2-oxoimidazolidin-1-yl or a 2-oxotetrahydropyrimidin-1(2H)-yl ring,

R^{19} is hydrogen,

R^{20} is methyl or ethyl,

or

R^{19} and R^{20} together with the atoms to which they are attached form a 2-oxo-1,3-oxazolidin-3-yl or 2-oxo-1,3-oxazinan-3-yl ring,

n is a number 0 or 2,

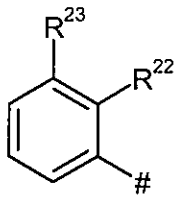
R^{21} is methyl,

R^{26} is hydrogen,

R^{27} is hydrogen,

R^{28} is hydrogen,

R^4 is a group of the formula



where

is the attachment site to -C(R^5)(AR^3)N-,

R^{22} is hydrogen, cyano, methyl, trifluoromethoxy, fluorine, chlorine, trifluoromethyl and methoxy,

R^{23} is hydrogen, cyano, methyl, trifluoromethoxy, fluorine, chlorine, trifluoromethyl and methoxy,

where at least one of the radicals R^{22} and R^{23} is other than hydrogen,

R^5 is hydrogen or methyl,

R^{29} is hydrogen,

and also their salts, solvates, and solvates of the salts.

2. The compound of claim 1, wherein

R^{22} is hydrogen, fluorine, chlorine, trifluoromethyl and methoxy, and

R^{23} is hydrogen, fluorine, chlorine, trifluoromethyl and methoxy.

3. The compound of claim 1, wherein

R^1 is 3,3,3-trifluoroprop-1-en-1-yl; 3,3,3-trifluoropropyl; or 1,1,1-trifluoropropan-2-ol-3-yl

R^{22} is hydrogen, fluorine, chlorine or trifluoromethyl,

R^{23} is hydrogen, fluorine, chlorine or trifluoromethyl,

wherein at least one of the radicals R^{22} and R^{23} is other than hydrogen.

4. The compound of claim 1, wherein

R^3 is $-NR^8-C(=O)-R^9$, $-NR^{10}-SO_2-R^{11}$, $-O-C(=O)-NR^{14}R^{15}$ or $-NR^{16}-C(=O)-NR^{17}R^{18}$,

wherein

R^8 is hydrogen,

R^9 is methyl,

R^{10} is hydrogen,

R^{11} is methyl or ethyl,

R^{14} is hydrogen or methyl,

R^{15} is hydrogen, methyl or ethyl,

R^{16} is hydrogen,

R^{17} is hydrogen or methyl,

R^{18} is hydrogen, methyl or ethyl,

R^{22} is hydrogen, cyano, methyl, trifluoromethoxy, fluorine, chlorine, trifluoromethyl and methoxy, and

R^{23} is hydrogen, cyano, methyl, trifluoromethoxy, fluorine, chlorine, trifluoromethyl and methoxy,

wherein at least one of the radicals R^{22} and R^{23} is other than hydrogen.

5. The compound of claim 4, wherein

R^{22} is hydrogen, fluorine, chlorine, trifluoromethyl and methoxy, and

R^{23} is hydrogen, fluorine, chlorine, trifluoromethyl and methoxy,

wherein at least one of the radicals R^{22} and R^{23} is other than hydrogen.

6. The compound of claim 4, wherein

R^1 is 3,3,3-trifluoroprop-1-en-1-yl, 3,3,3-trifluoropropyl or 1,1,1-trifluoropropan-2-ol-3-yl,

R^{22} is hydrogen, fluorine, chlorine or trifluoromethyl, and

R^{23} is hydrogen, fluorine, chlorine or trifluoromethyl,

wherein at least one of the radicals R^{22} and R^{23} is other than hydrogen.

7. The compound of claim 1, wherein

R^1 is 3,3,3-trifluoroprop-1-en-1-yl, 3,3,3-trifluoropropyl or 1,1,1-trifluoropropan-2-ol-3-yl,

R^3 is -O-C(=O)-$NR^{14}R^{15}$, wherein

R^{14} is hydrogen or methyl,

R^{15} is hydrogen, methyl or ethyl.

8. The compound of claim 1, wherein

R^1 is 1,1,1-trifluoropropan-2-ol-3-yl,

R^3 is -O-C(=O)-$NR^{14}R^{15}$, wherein

R^{14} is hydrogen or methyl,

R^{15} is hydrogen, methyl or ethyl,

R^{22} is hydrogen, fluorine, chlorine or trifluoromethyl, and

R^{23} is hydrogen, fluorine, chlorine or trifluoromethyl,

wherein at least one of the radicals R^{22} and R^{23} is other than hydrogen.

9. The compound of claim 1, wherein

R^1 is 3,3,3-trifluoroprop-1-en-1-yl, 3,3,3-trifluoropropyl or 1,1,1-trifluoropropan-2-ol-3-yl,

R^3 is NH-C(=O)-CH_3.

10. The compound of claim 1, wherein

R^1 is 1,1,1-trifluoropropan-2-ol-3-yl,

R^3 is NH-C(=O)-CH_3,

R^{22} is hydrogen, fluorine, chlorine or trifluoromethyl, and

R^{23} is hydrogen, fluorine, chlorine or trifluoromethyl,

wherein at least one of the radicals R^{22} and R^{23} is other than hydrogen.

11. The compound of claim 1, wherein

R^1 is 3,3,3-trifluoroprop-1-en-1-yl, 3,3,3-trifluoropropyl or 1,1,1-trifluoropropan-2-ol-3-yl,

R^3 is -NR^{10}-SO_2-R^{11}, wherein

R^{10} is hydrogen,

R^{11} is methyl or ethyl.

12. The compound of claim 1, wherein

R^1 is 1,1,1-trifluoropropan-2-ol-3-yl,

R^3 is -NR^{10}-SO_2-R^{11}, wherein

R^{10} is hydrogen,

R^{11} is methyl or ethyl,

R^{22} is hydrogen, fluorine, chlorine or trifluoromethyl, and

R^{23} is hydrogen, fluorine, chlorine or trifluoromethyl,

wherein at least one of the radicals R^{22} and R^{23} is other than hydrogen.

13. The compound of claim 1, wherein

R^1 is 3,3,3-trifluoroprop-1-en-1-yl, 3,3,3-trifluoropropyl or 1,1,1-trifluoropropan-2-ol-3-yl,

R^3 is $-NR^{16}-C(=O)-NR^{17}R^{18}$,

wherein

R^{16} is hydrogen,

R^{17} is hydrogen or methyl,

R^{18} is hydrogen, methyl or ethyl.

14. The compound of claim 1, wherein

R^1 is 1,1,1-trifluoropropan-2-ol-3-yl,

R^3 is $-NR^{16}-C(=O)-NR^{17}R^{18}$,

wherein

R^{16} is hydrogen,

R^{17} is hydrogen or methyl,

R^{18} is hydrogen, methyl or ethyl,

R^{22} is hydrogen, fluorine, chlorine or trifluoromethyl, and

R^{23} is hydrogen, fluorine, chlorine or trifluoromethyl,

wherein at least one of the radicals R^{22} and R^{23} is other than hydrogen.

15. The compound of claim 1, wherein

R^1 is S-1,1,1-trifluoropropan-2-ol-3-yl.

16. An enantiomer or diastereomer of claim 7 or mixture thereof, selected from the group consisting of:

2-{3-(4-Chlorophenyl)-5-oxo-4-[(2S)-3,3,3-trifluoro-2-hydroxypropyl]-4,5-dihydro-1H-1,2,4-triazol-1-yl}-N-{2-nitro-1-[3-(trifluoromethyl)phenyl]ethyl}acetamide *(diastereomer I),*

N-{2-(Acetylamino)-1-[3-(trifluoromethyl)phenyl]ethyl}-2-{3-(4-chlorophenyl)-5-oxo-4-[(2S)-3,3,3-trifluoro-2-hydroxypropyl]-4,5-dihydro-1H-1,2,4-triazol-1-yl}acetamide *(diastereomer mixture),*

2-{3-(4-Chlorophenyl)-5-oxo-4-[(2S)-3,3,3-trifluoro-2-hydroxypropyl]-4,5-dihydro-1H-1,2,4-triazol-1-yl}-N-{2-[(methylsulphonyl)amino]-1-[3-trifluoromethyl)phenyl]ethyl} acetamide *(diastereomer II),*

2-{3-(4-Chlorophenyl)-5-oxo-4-[(2S)-3,3,3-trifluoro-2-hydroxypropyl]-4,5-dihydro-1H-1,2,4-triazol-1-yl}-N-{2-[(methylsulphonyl)amino]-1-[2-trifluoromethyl)phenyl]ethyl} acetamide *(diastereomer II),*

2-{3-(4-Chlorophenyl)-5-oxo-4-[(2S)-3,3,3-trifluoro-2-hydroxypropyl]-4,5-dihydro-1H-1,2,4-triazol-1-yl}-N-{1-(2,3-dichlorophenyl)-2-[(ethylsulphonyl)amino]ethyl}acetamide *(diastereomer II),*

(2R)-2-[({3-(4-Chlorophenyl)-5-oxo-4-[(2S)-3,3,3-trifluoro-2-hydroxypropyl]-4,5-dihydro-1H-1,2,4-triazol-1-yl}acetyl)amino]-2-[3-(trifluoromethyl)phenyl]propyl carbamate,

2-[({3-(4-Chlorophenyl)-5-oxo-4-[(2S)-3,3,3-trifluoro-2-hydroxypropyl]-4,5-dihydro-1H-1,2,4-triazol-1-yl}acetyl)amino]-2-[3-(trifluoromethyl)phenyl]ethyl carbamate *(diastereomer II),*

2-[({3-(4-Chlorophenyl)-5-oxo-4-[(2S)-3,3,3-trifluoro-2-hydroxypropyl]-4,5-dihydro-1H-1,2,4-triazol-1-yl}acetyl)amino]-2-[2-(trifluoromethyl)phenyl]ethyl carbamate *(diastereomer II),*

2-(2-Chlorophenyl)-2-[({3-(4-chlorophenyl)-5-oxo-4-[(2S)-3,3,3-trifluoro-2-hydroxypropyl]-4,5-dihydro-1H-1,2,4-triazol-1-yl}acetyl)amino]ethyl carbamate *(diastereomer mixture),*

N-{2-(Carbamoylamino)-1-[3-(trifluoromethyl)phenyl]ethyl}-2-{3-(4-chlorophenyl)-5-oxo-4-[(2S)-3,3,3-trifluoro-2-hydroxypropyl]-4,5-dihydro-1H-1,2,4-triazol-1-yl}acetamide *(diastereomer I),*

N-{2-(Carbamoylamino)-1-[2-(trifluoromethyl)phenyl]ethyl}-2-{3-(4-chlorophenyl)-5-oxo-4-[(2S)-3,3,3-trifluoro-2-hydroxypropyl]-4,5-dihydro-1H-1,2,4-triazol-1-yl}acetamide *(diastereomer II),*

N-[2-(Carbamoylamino)-1-(2,3-dichlorophenyl)ethyl]-2-{3-(4-chlorophenyl)-5-oxo-4-[(2S)-3,3,3-trifluoro-2-hydroxypropyl]-4,5-dihydro-1H-1,2,4-triazol-1-yl}acetamide *(diastereomer II),*

2-[({3-(4-Chlorophenyl)-5-oxo-4-[(1E)-3,3,3-trifluoroprop-1-en-1-yl]-4,5-dihydro-1H-1,2,4-triazol-1-yl}acetyl)amino]-2-[3-(trifluoromethyl)phenyl]ethyl carbamate *(Enantiomer II),*

Methyl [2-({[3-(4-chlorophenyl)-5-oxo-4-(3,3,3-trifluoropropyl)-4,5-dihydro-1H-1,2,4-triazol-1-yl]acetyl}amino)-2-(2,3-dichlorophenyl)ethyl]carbamate (*enantiomer 2*),

N-[2-(Carbamoylamino)-1-(2,3-dichlorophenyl)ethyl]-2-[3-(4-chlorophenyl)-5-oxo-4-(3,3,3-trifluoropropyl)-4,5-dihydro-1H-1,2,4-triazol-1-yl]acetamide (*enantiomer 2*),

N-{1-(2-Chlorophenyl)-2-[(methylsulphonyl)amino]ethyl}-2-{3-(4-chlorophenyl)-5-oxo-4-[(2S)-3,3,3-trifluoro-2-hydroxypropyl]-4,5-dihydro-1H-1,2,4-triazol-1-yl}acetamide (*diastereomer I*),

2-{3-(4-Chlorophenyl)-5-oxo-4-[(2S)-3,3,3-trifluoro-2-hydroxypropyl]-4,5-dihydro-1H-1,2,4-triazol-1-yl}-N-{2-(methylsulphonyl)-1-[2-(trifluoromethyl)phenyl]ethyl} acetamide (*diastereomer II*),

2-{3-(4-Chlorophenyl)-5-oxo-4-[(2S)-3,3,3-trifluoro-2-hydroxypropyl]-4,5-dihydro-1H-1,2,4-triazol-1-yl}-N-{2-(dimethylsulphamoyl)-1-[3-(trifluoromethyl)phenyl]ethyl} acetamide (*diastereomer I*),

2-({[3-(4-Chlorophenyl)-5-oxo-4-(3,3,3-trifluoropropyl)-4,5-dihydro-1H-1,2,4-triazol-1-yl]acetyl}amino)-2-[2-(trifluoromethyl)phenyl]ethyl carbamate *(enantiomerically pure),*

2-{3-(4-Chlorophenyl)-5-oxo-4-[(2S)-3,3,3-trifluoro-2-hydroxypropyl]-4,5-dihydro-1H-1,2,4-triazol-1-yl}-N-{2-(2-oxo-1,3-oxazolidin-3-yl)-1-[3-(trifluoromethyl)phenyl]ethyl} acetamide *(diastereomer I),*

2-{3-(4-Chlorophenyl)-5-oxo-4-[(2S)-3,3,3-trifluoro-2-hydroxypropyl]-4,5-dihydro-1H-1,2,4-triazol-1-yl}-N-{2-(2-oxoimidazolidin-1-yl)-1-[3-(trifluoromethyl)phenyl]ethyl} acetamide *(diastereomer I),*

2-{3-(4-Chlorophenyl)-5-oxo-4-[(2S)-3,3,3-trifluoro-2-hydroxypropyl]-4,5-dihydro-1H-1,2,4-triazol-1-yl}-N-{2-(methylsulphanyl)-1-[2-(trifluoromethyl)phenyl]ethyl}acetamide *(diastereomer II),*

2-[({3-(4-Chlorophenyl)-5-oxo-4-[(2S)-3,3,3-trifluoro-2-hydroxypropyl]-4,5-dihydro-1H-1,2,4-triazol-1-yl}acetyl)amino]-2-[3-(trifluoromethyl)phenyl]ethyl sulphamate *(diastereomer mixture),*

2-(3-chloro-2-fluorophenyl)-2-R{3-(4-chlorophenyl)-5-oxo-4-[(2S)-3,3,3-trifluoro-2-hydroxypropyl]-4,5-dihydro-1H-1,2,4-triazol-1-yl}acetyl)amino]ethyl carbamate *(diastereomer mixture),*

2-({[3-(4-Chlorophenyl)-4-(2-fluorobenzyl)-5-oxo-4,5-dihydro-1H-1,2,4-triazol-1-yl]acetyl}amino)-2-[2-(trifluoromethyl)phenyl]ethyl carbamate *(enantiomer II),*

2-[({3-(4-Chlorophenyl)-5-oxo-4-[(2S)-3,3,3-trifluoro-2-hydroxypropyl]-4,5-dihydro-1H-1,2,4-triazol-1-yl}acetyl)amino]-2-(2,3-dichlorophenyl)ethyl carbamate (*diastereomer II*),

2-({[4-(4-Chlorophenyl)-2-oxo-3-(3,3,3-trifluoro-2-hydroxypropyl)-2,3-dihydro-1H-imidazol-1-yl]acetyl}amino)-2-[2-(trifluoromethyl)phenyl]ethyl carbamate (*diastereomer mixture*)

or a salt, solvate, or solvate of a salt thereof.

17. 2-{3-(4-Chlorophenyl)-5-oxo-4-[(2S)-3,3,3-trifluoro-2-hydroxypropyl]-4,5-dihydro-1H-1,2,4-triazol-1-yl}-N-{2-[(methylsulphonyl)amino]-1-[3-(trifluoromethyl)phenyl]ethyl} acetamide *(diastereomer II)*

or a salt, solvate, or solvate of a salt thereof.

18. 2-{3-(4-Chlorophenyl)-5-oxo-4-[(2S)-3,3,3-trifluoro-2-hydroxypropyl]-4,5-dihydro-1H-1,2,4-triazol-1-yl}-N-{2-[(methylsulphonyl)amino]-1-[2-(trifluoromethyl)phenyl]ethyl} acetamide *(diastereomer II)*

or a salt, solvate, or solvate of a salt thereof.

19. (2R)-2-[({3-(4-Chlorophenyl)-5-oxo-4-[(2S)-3,3,3-trifluoro-2-hydroxypropyl]-4,5-dihydro-1H-1,2,4-triazol-1-yl}acetyl)amino]-2-[3-(trifluoromethyl)phenyl]propyl carbamate

or a salt, solvate, or solvate of a salt thereof.

20. 2-[({3-(4-Chlorophenyl)-5-oxo-4-[(2S)-3,3,3-trifluoro-2-hydroxypropyl]-4,5-dihydro-1H-1,2,4-triazol-1-yl}acetyl)amino]-2-[3-(trifluoromethyl)phenyl]ethyl carbamate (*diastereomer II)*

21. 2-[({3-(4-Chlorophenyl)-5-oxo-4-[(2S)-3,3,3-trifluoro-2-hydroxypropyl]-4,5-dihydro-1H-1,2,4-triazol-1-yl}acetyl)amino]-2-[2-(trifluoromethyl)phenyl]ethyl carbamate *(diastereomer II)*

or a salt, solvate, or solvate of a salt thereof.

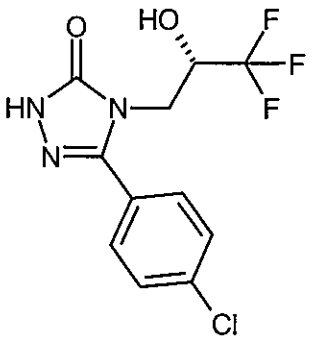
22. N-[2-(Carbamoylamino)-1-(2,3-dichlorophenyl)ethyl]-2-{3-(4-chlorophenyl)-5-oxo-4-[(2S)-3,3,3-trifluoro-2-hydroxypropyl]-4,5-dihydro-1H-1,2,4-triazol-1-yl}acetamide *(diastereomer II)*

or a salt, solvate, or solvate of a salt thereof.

23. 2-(2-Chlorophenyl)-2-[({3-(4-chlorophenyl)-5-oxo-4-[(2S)-3,3,3-trifluoro-2-hydroxypropyl]-4,5-dihydro-1H-1,2,4-triazol-1-yl}acetyl)amino]ethyl carbamate (*diastereomer mixture*).

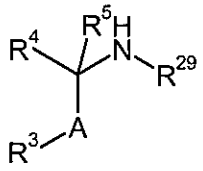
or a salt, solvate, or solvate of a salt thereof.

24. A compound of the formula



5-(4-chlorophenyl)-4-[(2S)-3,3,3-trifluoro-2-hydroxypropyl]-2,4-dihydro-3H-1,2,4-triazol-3-one.

25. Compound of the formula (III)



(III),

wherein

A is CH_2,

R^3 is is $-NR^8-C(=O)-R^9$, $-NR^{10}-SO_2-R^{11}$, $-SO_2-NR^{12}R^{13}$, $-O-C(=O)-NR^{14}R^{15}$, $-NR^{16}-C(=O)-NR^{17}R^{18}$, $-NR^{19}-C(=O)-OR^{20}$, $-S(=O)_nR^{21}$ or $-NR^{26}-SO_2-NR^{27}R^{28}-$,

where

R^8 is hydrogen,

R^9 is methyl,

R^{10} is hydrogen,

R^{11} is methyl or ethyl,

R^{12} is methyl,

R^{13} is methyl,

R^{14} is hydrogen or methyl,

R^{15} is hydrogen, methyl or ethyl,

R^{16} is hydrogen,

R^{17} is hydrogen or methyl,

R^{18} is hydrogen, methyl or ethyl,

or

R^{16} and R^{17} together with the nitrogen atoms to which they are attached form a 2-oxoimidazolidin-1-yl or a 2-oxotetrahydropyrimidin-1(2H)-yl ring,

R^{19} is hydrogen,

R^{20} is methyl or ethyl,

or

R^{19} and R^{20} together with the atoms to which they are attached form a 2-oxo-1,3-oxazolidin-3-yl or 2-oxo-1,3-oxazinan-3-yl ring,

n is a number 0 or 2,

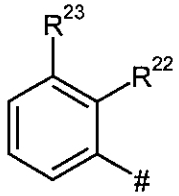
R^{21} is methyl,

R^{26} is hydrogen,

R^{27} is hydrogen,

R^{28} is hydrogen,

R^4 is a group of the formula



where

is the attachment site to -C(R^5)(AR^3)N-,

R^{22} is hydrogen, fluorine, chlorine and trifluoromethyl,

R^{23} is hydrogen, fluorine, chlorine and trifluoromethyl,

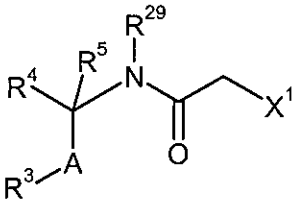
wherein at least one of the radicals R^{22} and R^{23} is other than hydrogen,

R^5 is hydrogen or methyl, and

R^{29} is hydrogen,

or a salt, solvate, or solvate of a salt thereof.

26. A compound of formula (V)



(V),

wherein

A is CH_2,

R^3 is $-NR^8-C(=O)-R^9$, $-NR^{10}-SO_2-R^{11}$, $-SO_2-NR^{12}R^{13}$, $-O-C(=O)-NR^{14}R^{15}$, $-NR^{16}-C(=O)-NR^{17}R^{18}$, $-NR^{19}-C(=O)-OR^{20}$, $-S(=O)_nR^{21}$ or $-NR^{26}-SO_2-NR^{27}R^{28}-$,

where

R^8 is hydrogen,

R^9 is methyl,

R^{10} is hydrogen,

R^{11} is methyl or ethyl,

R^{12} is methyl,

R^{13} is methyl,

R^{14} is hydrogen or methyl,

R^{15} is hydrogen, methyl or ethyl,

R^{16} is hydrogen,

R^{17} is hydrogen or methyl,

R^{18} is hydrogen, methyl or ethyl,

or

R^{16} and R^{17} together with the nitrogen atoms to which they are attached form a 2-oxoimidazolidin-1-yl or a 2-oxotetrahydropyrimidin-1(2H)-yl ring,

R^{19} is hydrogen,

R^{20} is methyl or ethyl,

or

R^{19} and R^{20} together with the atoms to which they are attached form a 2-oxo-1,3-oxazolidin-3-yl or 2-oxo-1,3-oxazinan-3-yl ring,

n is a number 0 or 2,

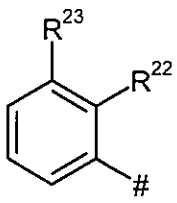
R^{21} is methyl,

R^{26} is hydrogen,

R^{27} is hydrogen,

R^{28} is hydrogen,

R^4 is a group of the formula



where

is the attachment site to -C(R^5)(AR^3)N-,

R^{22} is hydrogen, fluorine, chlorine and trifluoromethyl,

R^{23} is hydrogen, fluorine, chlorine and trifluoromethyl,

where at least one of the radicals R^{22} and R^{23} is other than hydrogen,

R^5 is hydrogen or methyl, and

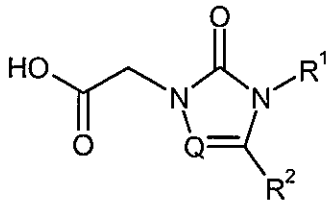
R^{29} is hydrogen, and

X^1 is a leaving group.

27. The compound of claim 26, wherein the leaving group is selected from the group consisting of halogen, mesylate, and tosylate.

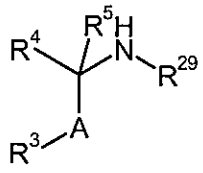
28. A process for preparing compounds of the formula (I) as defined in claim 1, comprising the steps of:

[A] coupling a compound of the formula (II)



(II),

in which Q, R^1, and R^2 are each as defined in claim 1, in an inert solvent, with activation of the carboxylic acid function, to a compound of the formula (III)

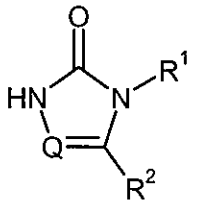


(III),

in which A, R^3, R^4, R^5, and R^{29} are each as defined in claim 1;

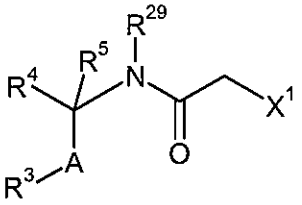
or

[B] reacting a compound of the formula (IV)



(IV),

in which Q, R^1, and R^2 are each as defined in claim 7, in an inert solvent, in the presence of a base, with a compound of the formula (V)



(V),

in which A, R^3, R^4, R^5, and R^{29} are each as defined in claim 7, and X^1 is a leaving group; and optionally converting the resulting compound into a salt thereof.

29. A pharmaceutical composition comprising a compound of the formula (I) as defined in claim 1 in combination with a pharmaceutically suitable excipient.